

STRUCTURE SEARCH

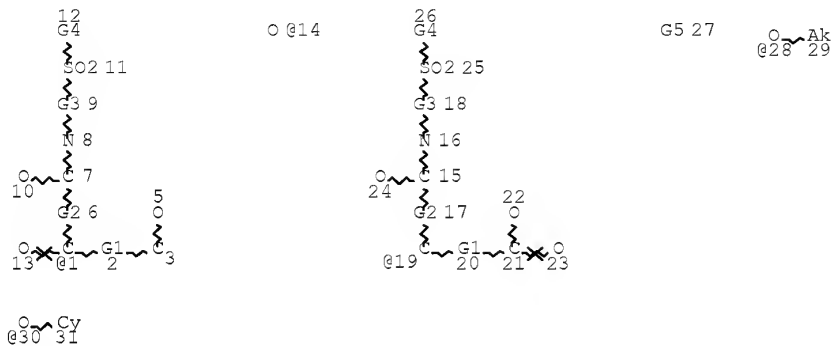
=&gt; d his 134

(FILE 'HCAPLUS' ENTERED AT 09:31:31 ON 02 SEP 2008)

L34 10 S L33 AND L27  
 SAV TEMP L34 FAN001HCPA/A

=&gt; d que 134

L3 SCR 1267  
 L4 STR

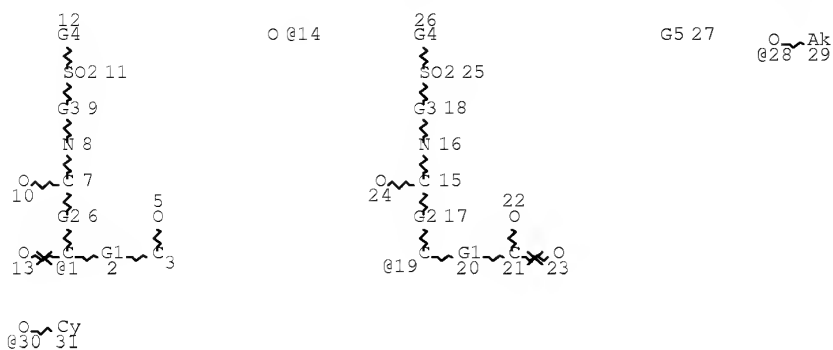


REP G1=(0-4) C  
 REP G2=(0-8) C  
 VAR G3=AK/CY  
 VAR G4=X/14/OH/28/30  
 VAR G5=1/19  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 3  
 NSPEC IS RC AT 13  
 NSPEC IS RC AT 19  
 NSPEC IS RC AT 23  
 CONNECT IS E3 RC AT 3  
 CONNECT IS E1 RC AT 5  
 CONNECT IS E1 RC AT 10  
 CONNECT IS E1 RC AT 14  
 CONNECT IS E3 RC AT 19  
 CONNECT IS E1 RC AT 22  
 CONNECT IS E1 RC AT 24  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE  
 L5 368 SEA FILE=REGISTRY SSS FUL L4 AND L3  
 L6 SCR 1267  
 L7 STR

# 10/574,001-270118-EIC 1700 SEARCH



```

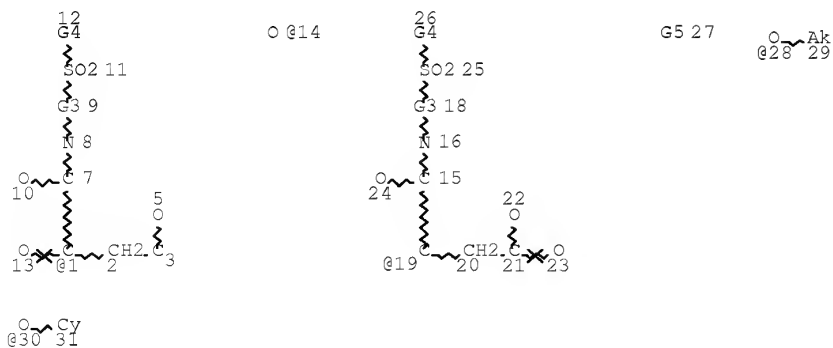
REP G1=(0-4) C
REP G2=(0-8) C
VAR G3=AK/CY
VAR G4=X/14/OH/28/30
VAR G5=1/19
NODE ATTRIBUTES:
NSPEC   IS RC      AT    3
NSPEC   IS RC      AT   13
NSPEC   IS RC      AT   19
NSPEC   IS RC      AT   23
CONNECT IS E3      RC AT    3
CONNECT IS E1      RC AT    5
CONNECT IS E1      RC AT   10
CONNECT IS E1      RC AT   14
CONNECT IS E3      RC AT   19
CONNECT IS E1      RC AT   22
CONNECT IS E1      RC AT   24
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
  
```

```

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 30
  
```

```

STEREO ATTRIBUTES: NONE
L8 (      368)SEA FILE=REGISTRY SSS FUL L7 AND L6
L9      STR
  
```



```

VAR G3=AK/CY
VAR G4=X/14/OH/28/30
VAR G5=1/19
  
```

# 10/574,001-270118-EIC 1700 SEARCH

## NODE ATTRIBUTES:

```

NSPEC   IS RC      AT    3
NSPEC   IS RC      AT   13
NSPEC   IS RC      AT   19
NSPEC   IS RC      AT   23
CONNECT IS E3      RC AT    3
CONNECT IS E1      RC AT    5
CONNECT IS E1      RC AT   10
CONNECT IS E1      RC AT   14
CONNECT IS E3      RC AT   19
CONNECT IS E1      RC AT   22
CONNECT IS E1      RC AT   24
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

```

## GRAPH ATTRIBUTES:

```

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 28

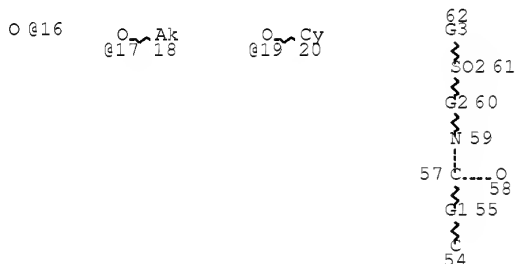
```

## STEREO ATTRIBUTES: NONE

```

L10          53 SEA FILE=REGISTRY SUB=L8 SSS FUL L9
L11 (        2677)SEA FILE=HCAPLUS ABB=ON PLU=ON POLYHYDROXYALKANOAT?
                OR POLYHYDROXYALKANOIC? OR (POLY OR ?POLYM?)(A)(HYDROXY
                ALKANOAT? OR HYDROXYALKANOOIC? OR (HYDROXY(W)(ALKANOAT?
                OR ALKANOIC?)))
L12          SEL PLU=ON L11 1- RN :      8487 TERMS
L13 (        8487)SEA FILE=REGISTRY ABB=ON PLU=ON L12
L14          STR

```



```

REP G1=(0-8) CH2
VAR G2=AK/CY
VAR G3=OH/16/17/19/X
NODE ATTRIBUTES:
CONNECT IS E1      RC AT   16
CONNECT IS E1      RC AT   58
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

```

## GRAPH ATTRIBUTES:

```

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

```

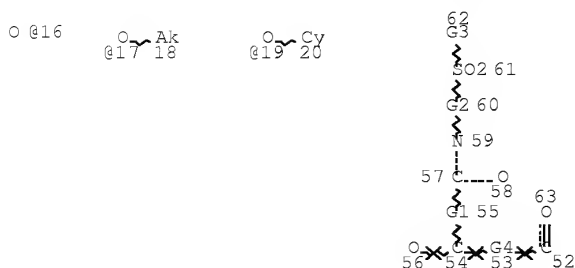
## STEREO ATTRIBUTES: NONE

```

L15          6 SEA FILE=REGISTRY SUB=L13 SSS FUL L14
L16          STR

```

# 10/574,001-270118-EIC 1700 SEARCH

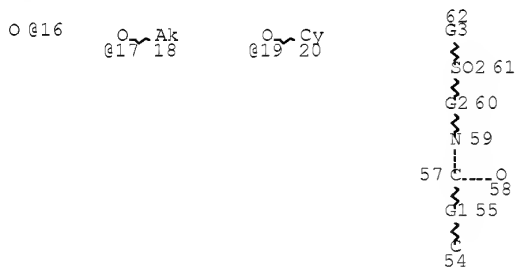


REP G1=(0-8) CH2  
 VAR G2=AK/CY  
 VAR G3=OH/16/17/19/X  
 REP G4=(0-4) C  
 NODE ATTRIBUTES:  
 CONNECT IS E1 RC AT 16  
 CONNECT IS E1 RC AT 58  
 CONNECT IS E1 RC AT 63  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L17 66 SEA FILE=REGISTRY SSS FUL L16  
 L18 125 SEA FILE=REGISTRY ABB=ON PLU=ON L10 OR L15 OR L17  
 L19 5993 SEA FILE=HCAPLUS ABB=ON PLU=ON L18  
 L20 ( 2677) SEA FILE=HCAPLUS ABB=ON PLU=ON POLYHYDROXYALKANOAT?  
 OR POLYHYDROXYALKANOIC? OR (POLY OR ?POLYM?) (A) (HYDROXY  
 ALKANOAT? OR HYDROXYALKANOOIC? OR (HYDROXY (W) (ALKANOAT?  
 OR ALKANOIC?)))  
 L21 SEL PLU=ON L20 1- RN : 8487 TERMS  
 L22 ( 8487) SEA FILE=REGISTRY ABB=ON PLU=ON L21  
 L23 STR



REP G1=(0-8) CH2  
 VAR G2=AK/CY  
 VAR G3=OH/16/17/19/X  
 NODE ATTRIBUTES:  
 CONNECT IS E1 RC AT 16  
 CONNECT IS E1 RC AT 58  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

# 10/574,001-270118-EIC 1700 SEARCH

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

```
L24 (      6)SEA FILE=REGISTRY SUB=L22 SSS FUL L23
L25 (      5930)SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24
L26 (      10)SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 AND (L20 OR PHA)
L27      QUE  ABB=ON  PLU=ON  PY<2005 OR PRY<2005 OR AY<2005 OR
      MY<2005 OR REVIEW/DT
L28      10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND L27
L29      10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND (L20 OR PHA)
L30      10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L28 OR L29
L31      364 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L5
L32      0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L31 AND (L20 OR PHA)
L33      10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L30 OR L32
L34      10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L27
```

STRUCTURE SEARCH RESULTS

=&gt; d 134 1-10 ibib ed abs hitstr hitind

L34 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:657311 HCAPLUS Full-text  
 DOCUMENT NUMBER: 145:126120  
 TITLE: Polymers containing poly(hydroxyalkanoates) and agents for use with medical articles and methods of fabricating the same  
 INVENTOR(S): Hossainy, Syed F. A.; Pacetti, Stephen D.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 35 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

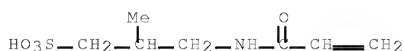
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060147412	A1	20060706	US 2004-27955	2004 1230
			<--	
WO 2006073631	A1	20060713	WO 2005-US43527	2005 1201
			<--	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1846476	A1	20071024	EP 2005-852689	2005 1201
			<--	
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
JP 2008527074	T	20080724	JP 2007-549388	2005 1201
			<--	
PRIORITY APPLN. INFO.:			US 2004-27955	A 2004 1230
			<--	
			WO 2005-US43527	W 2005 1201

ED Entered STN: 07 Jul 2006  
 AB Polymers containing poly(hydroxyalkanoates) and agents for use with medical articles and methods of fabricating the same are disclosed. The medical article generally

# 10/574,001-270118-EIC 1700 SEARCH

comprises an implantable substrate having a coating, and the coating contains a poly(hydroxyalkanoate).

IT 38599-26-7  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polymers containing poly(hydroxyalkanoates)  
 and agents for use with medical articles and methods of  
 fabricating the same)  
 RN 38599-26-7 HCAPLUS  
 CN 1-Propanesulfonic acid, 2-methyl-3-[(1-oxo-2-propen-1-yl)amino]-,  
 homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 45099-91-0  
 CMF C7 H13 N O4 S



INCL 424078270; 424078300; 525054100  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 63  
 ST medical coating poly(hydroxyalkanoate)  
 IT Medical goods  
 (coating; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Silk  
 (elastins; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Fats and Glyceridic oils, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (fish; polymers containing poly(hydroxyalkanoates  
 ) and agents for use with medical articles and methods of  
 fabricating the same)  
 IT Essential oils  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (garlic; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Polyesters, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered  
 material use); THU (Therapeutic use); BIOL (Biological study);  
 USES (Uses)  
 (hydroxycarboxylic acid-based; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Polyesters, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyamide-; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Polyamides, uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (polyester-; polymers containing poly(  
 hydroxyalkanoates) and agents for use with medical  
 articles and methods of fabricating the same)  
 IT Anticoagulants  
 Antimicrobial agents  
 Radical scavengers  
 (polymers containing poly(hydroxyalkanoates))

## 10/574,001-270118-EIC 1700 SEARCH

and agents for use with medical articles and methods of fabricating the same)

IT Castor oil

Collagens, uses

Elastins

Essential oils

Peptides, uses

Polyoxyalkylenes, uses

Polysaccharides, uses

RL: MOA (Modifier or additive use); USES (Uses)

(polymers containing poly(hydroxyalkanoates)

and agents for use with medical articles and methods of fabricating the same)

IT Polymer blends

RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(polymers containing poly(hydroxyalkanoates)

and agents for use with medical articles and methods of fabricating the same)

IT Medical goods

(stents; polymers containing poly(hydroxyalkanoates) and agents for use with medical articles and methods of fabricating the same)

IT 2226-96-2 2564-83-2 14691-88-4 53034-38-1 897030-64-7

RL: MOA (Modifier or additive use); USES (Uses)

(free radical scavenger; polymers containing poly(hydroxyalkanoates) and agents for use with medical articles and methods of fabricating the same)

IT 50-28-2, Estradiol, uses 56-81-5, Glycerol, uses 64-17-5, Ethanol, uses 68-12-2, Dimethyl formamide, uses 107-73-3, Phosphorylcholine 1330-20-7, Xylene, uses 8001-27-2, Hirudin 9003-39-8, Poly(N-vinylpyrrolidone) 9004-32-4, Carboxymethylcellulose 9004-54-0D, Dextran, sulfated 9004-54-0D, Dextran, sulfonated 9004-61-9, Hyaluronic acid 9005-49-6, Heparin, uses 9007-28-7, Chondroitin sulfate 24967-94-0, Dermatan sulfate 25122-41-2, Clobetasol 25322-68-3, Poly(ethylene oxide) 25322-69-4, Poly(propylene glycol) 33069-62-4, Paclitaxel 38599-26-7 50851-57-5 53123-88-9, Rapamycin 85637-73-6, Atrial natriuretic peptide 99896-85-2 104987-11-3, Tacrolimus 114977-28-5, Docetaxel 116057-75-1, Idoxifene 118292-40-3, Tazarotene 159351-69-6, Everolimus 221877-54-9, ABT-578

RL: MOA (Modifier or additive use); USES (Uses)

(polymers containing poly(hydroxyalkanoates)

and agents for use with medical articles and methods of fabricating the same)

L34 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:147375 HCAPLUS Full-text

DOCUMENT NUMBER: 144:219378

TITLE: Coatings for implantable devices comprising poly (hydroxy-alkanoates) and diacid linkages

INVENTOR(S): Pacetti, Stephen D.; Glauser, Thierry

PATENT ASSIGNEE(S): Advanced Cardiovascular Systems, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 20060034888	A1	20060216	US 2004-902982	2004

## 10/574,001-270118-EIC 1700 SEARCH

0730

WO 2006055049 A1 20060526 WO 2005-US24314

2005

0707

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,  
KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI,  
SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL,  
SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
EP 1778764 A1 20070502 EP 2005-851202

2005

0707

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE,  
SI, SK, TR  
JP 2008508395 T 20080321 JP 2007-523593

2005

0707

PRIORITY APPLN. INFO.: US 2004-902982 A

2004

0730

WO 2005-US24314 W

2005

0707

ED Entered STN: 16 Feb 2006

AB Coatings for an implantable medical device and a method of fabricating thereof are disclosed, the coatings including block-polymers comprising at least one poly(hydroxyacid) or poly(hydroxy-alkanoate) block, at least one block of a biol. compatible polymer and at least one type of linking moiety. For example, to a 250 mL, three necked flask, equipped with magnetic stirring, vacuum, and argon purge was added PEG300 37.5 gm. Using an oil bath, the PEG was heated to 1050 C., and stirred under vacuum for two hours to remove water. The flask was purged with argon, and D,L-lactide 76.94 g was added, and vacuum applied with stirring for another 30 min. After purging with argon, the flask was heated to 1400 C., and polymerization was initiated by adding 10.8 mL of a 5 % (weight/weight) stannous-octanoate-dry-toluene solution. After stirring for 24 h, the reaction solution was cooled and poured into 500 mL of cold methanol to precipitate the polymer. The polymer was washed with methanol/petroleum ether and dried under vacuum. The triblock copolymer from above 25 g and succinic anhydride 0.0417 g was dissolved in 200 mL of anhydrous dichloromethane. To this is added 1,3-dicyclohexylcarbodiimide 0.103 g and 4-dimethylaminopyridine 0.0012 g. After stirring at room temperature for 24 h, the reaction solution was centrifuged to precipitate dicyclohexylurea and the supernatant solution poured into 150 mL of cold methanol to precipitate the polymer. After filtration, the polymer was washed with methanol/petroleum ether and dried under vacuum.

IT 27119-07-9

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(coatings for implantable devices comprising poly (hydroxy-alkanoates) and diacid linkages)

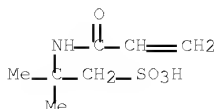
RN 27119-07-9 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-, homopolymer (CA INDEX NAME)

CM 1

## 10/574,001-270118-EIC 1700 SEARCH

CRN 15214-89-8  
CMF C7 H13 N O4 S



INCL 424426000; 525054100; 525054200  
 CC 63-7 (Pharmaceuticals)  
 ST polyhydroxyalkanoate stent coating implant  
 IT Acid halides  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (chlorides, diacid; coatings for implantable devices comprising  
 poly (hydroxy-alkanoates) and  
 diacid linkages)  
 IT Coating materials  
 (coatings for implantable devices comprising poly (hydroxy-alkanoates) and diacid linkages)  
 IT Anhydrides  
 Polyoxyalkylenes, biological studies  
 Polyphosphazenes  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (coatings for implantable devices comprising poly (hydroxy-alkanoates) and diacid linkages)  
 IT Carboxylic acids, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (dicarboxylic; coatings for implantable devices comprising  
 poly (hydroxy-alkanoates) and  
 diacid linkages)  
 IT Polyesters, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (hydroxycarboxylic acid-based; coatings for implantable devices  
 comprising poly (hydroxy-alkanoates)  
 ) and diacid linkages)  
 IT Prosthetic materials and Prosthetics  
 (implants; coatings for implantable devices comprising  
 poly (hydroxy-alkanoates) and  
 diacid linkages)  
 IT Polyethers, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (ortho ester group-containing; coatings for implantable devices  
 comprising poly (hydroxy-alkanoates)  
 ) and diacid linkages)  
 IT Medical goods  
 (stents; coatings for implantable devices comprising  
 poly (hydroxy-alkanoates) and  
 diacid linkages)  
 IT 100-21-0, Terephthalic acid, biological studies 110-16-7, Maleic acid, biological studies 110-17-8, Fumaric acid, biological studies 110-94-1, Glutaric acid 111-16-0, Pimelic acid 111-20-6, Sebacic acid, biological studies 123-99-9, Azelaic acid, biological studies 124-04-9, Adipic acid, biological studies 141-82-2, Malonic acid, biological studies 144-62-7, Oxalic acid, biological studies 502-44-3D, ε-Caprolactone, polymer 502-97-6D, Glycolide, polymer 505-48-6, Suberic acid 505-52-2, Brassylic acid 505-54-4, Thapsic acid 542-05-2, 1,3-Acetonedicarboxylic acid 693-23-2, Decane-1,10-dicarboxylic acid 821-38-5, Dodecane-1,12-dicarboxylic acid 1460-18-0, Tridecane-1,13-dicarboxylic acid 1852-04-6, Nonane-1,9-dicarboxylic acid 9003-11-6,

## 10/574,001-270118-EIC 1700 SEARCH

Ethyleneoxide-propylene oxide copolymer 9003-39-8,  
 Poly(N-vinylpyrrolidone) 9004-61-9D, Hyaluronic acid, polymers  
 9005-49-6D, Heparin, polymers 9042-14-2, Dextran sulfate  
 24980-41-4, Poly(caprolactone) 25038-75-9, Poly(D-lactide)  
 25190-06-1, Poly(tetramethylene glycol) 25248-42-4,  
 Poly(caprolactone) 25249-16-5, Poly(2-hydroxyethyl methacrylate)  
 25322-68-3, Poly(ethylene glycol) 25322-69-4, Poly(propylene  
 glycol) 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]  
 26063-00-3, Poly(3-hydroxybutyrate) 26100-51-6, Poly(lactic  
 acid) 26161-42-2 26680-10-4, Poly(lactide) 26744-04-7  
 26780-50-7, Glycolide-lactide copolymer 26811-96-1,  
 Poly(L-lactic acid) 26917-25-9 27119-07-9  
 28728-97-4, Poly[oxy(1-oxo-1,4-butanediyl)] 30846-39-0,  
 Glycolide-L-lactide copolymer 33135-50-1, Poly(L-lactide)  
 33594-93-3, Poly(3-hydroxypropylmethacrylate) 41706-81-4  
 50851-57-5 65408-67-5 67291-18-3, Poly[oxy(1-ethyl-3-oxo-1,3-  
 propanediyl)] 70524-20-8 75734-93-9 83120-66-5 113883-70-8  
 114959-05-6, Poly(4-hydroxybutyrate) 129515-24-8 136840-86-3  
 143073-46-5 206859-47-4 302597-29-1 681431-92-5  
 710952-30-0  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (coatings for implantable devices comprising poly (hydroxy-alkanoates) and diacid linkages)

L34 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:125423 HCAPLUS Full-text  
 DOCUMENT NUMBER: 144:213906  
 TITLE: Polymer layers for use in toner carrier and  
 developing apparatus using it  
 INVENTOR(S): Yano, Tetsuya; Kenmoku, Takashi; Fukui,  
 Itsuki; Kusakari, Aki; Mihara, Chieko;  
 Fujimoto, Norikazu  
 PATENT ASSIGNEE(S): Canon Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 134 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006037094	A	20060209	JP 2005-185636	2005 0624
US 20060194071	A1	20060831	US 2005-165356	2005 0624
PRIORITY APPLN. INFO.:			JP 2004-188893	A 2004 0625

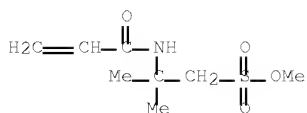
ED Entered STN: 10 Feb 2006

AB The toner carrier of electrophotog. copier or printer, etc., is made from  
 polyhydroxyalkanoates containing units derived from sulfonic acid or its derivs. or  
 carboxylic acid or its derivs. for controlling the excess elec. charge of toner and  
 preventing toner melt stick on carrier surface.

IT 54545-52-7, Methyl 2-acrylamido-2-methylpropanesulfonate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (methylation agent; polymer layers for use in toner carrier of  
 reproduction apparatus)

RN 54545-52-7 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-,  
 methyl ester (9CI) (CA INDEX NAME)



- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 74
- ST hydroxyalkanoic acid copolymer amide sulfonic acid ester toner carrier; electrophotog toner carrier sulfonic acid functional polyhydroxyalkanoate
- IT 18107-18-1, Trimethylsilyl diazomethane 54545-52-7, Methyl 2-acrylamido-2-methylpropanesulfonate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(methylation agent; polymer layers for use in toner carrier of reproduction apparatus)
- IT 81-16-3DP, 2-Amino-1-naphthalenesulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers, esterified 82-75-7DP, 1-Naphthylamine-8-sulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers, esterified compds. 88-21-1DP, 2-Aminobenzenesulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers, esterified compds. 88-44-8DP, p-Toluidine-2-sulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers, esterified 107-35-7DP, Taurine, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers 501-53-1DP, Benzyl chloroformate, carboxylation compound with polyhydroxyalkanoates, reaction products with sulfonic acid group-containing amines, esterified 5437-45-6DP, Benzyl bromoacetate, carboxylation compound with polyhydroxyalkanoates, reaction products with sulfonic acid group-containing amines, esterified 13244-33-2DP, 4-Methoxyaniline-2-sulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers 14660-52-7DP, Ethyl 5-bromovalerate, carboxylation compound with polyhydroxyalkanoates, reaction products with sulfonic acid group-containing amines, esterified 26063-00-3DP, 3-Hydroxybutyric acid homopolymer, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 26161-42-2DP, L-Lactide homopolymer sru, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 26744-04-7DP, 3-Hydroxybutyric acid homopolymer sru, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 29823-21-0DP, Ethyl 8-bromooctanoate, carboxylation compound with polyhydroxyalkanoates, reaction products with sulfonic acid group-containing amines, esterified 33135-50-1DP, L-Lactide homopolymer, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 34409-67-1DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 68227-69-0DP, 2-Aminobenzenesulfonic acid phenyl ester, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers, esterified 86311-35-5DP, 2-Amino-2-methylpropanesulfonic acid, reaction products with carboxylic acid group-containing hydroxyalkanoic acid copolymers 172923-04-5DP, 3-Hydroxy-5-phenylvaleric acid homopolymer, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 213316-74-6DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified

## 10/574,001-270118-EIC 1700 SEARCH

213316-75-7DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 213316-77-9DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 213316-79-1DP, Poly[oxy(1-hexyl-2-oxo-1,2-ethanediyl)], carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 340255-66-5DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 347867-66-7DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 347867-67-8DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 494210-48-9DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 871720-57-9DP, Benzyl 7-oxo-4-oxepanecarboxylate-L-lactide copolymer, debenzylated, reaction products with sulfonic acid group-containing amines, esterified compds. 872413-53-1DP, oxidized, reaction products with sulfonic acid group-containing amines, esterified compds. 872413-55-3DP, oxidized, reaction products with sulfonic acid group-containing amines 872413-57-5DP, oxidized 872413-59-7DP, oxidized 875814-39-4DP, oxidized 875814-42-9DP, carboxylation product, reaction products with sulfonic acid group-containing amines, esterified 875902-95-7DP, debenzylated, reaction products with sulfonic acid group-containing amines 875902-96-8DP, oxidized, reaction products with sulfonic acid group-containing amines 875902-96-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polymer layers for use in toner carrier of reproduction apparatus)

IT 56-86-0, L-Glutamic acid, reactions 100-51-6, Benzyl alcohol, reactions 25542-62-5D, Ethyl 6-bromohexanoate, carboxylation compound with polyhydroxyalkanoates, reaction products with sulfonic acid group-containing amines, esterified 872413-66-6  
RL: RCT (Reactant); RACT (Reactant or reagent)

(polymer layers for use in toner carrier of reproduction apparatus)

L34 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1349013 HCAPLUS Full-text

DOCUMENT NUMBER: 144:97627

TITLE: Resin-coated carrier for electrophotographic developer

INVENTOR(S): Yano, Tetsuya; Kenmoku, Takashi; Mihara, Chieko; Fukui, Tatsuki; Kusakari, Ako; Fujimoto, Norikazu

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: U.S. Pat. Appl. Publ., 73 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

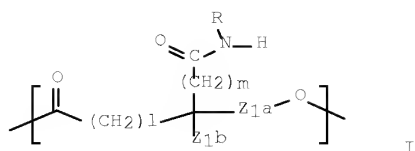
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

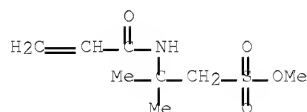
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 20050287484	A1	20051229	US 2005-165357	2005 0624
			<--	
JP 2006039533	A	20060209	JP 2005-185637	2005 0624
			<--	
PRIORITY APPLN. INFO.:			JP 2004-186453	A 2004 0624
			<--	

ED Entered STN: 29 Dec 2005



IT 54545-52-7EP, Methyl 2-Acrylamido-2-methylpropanesulfonate, reaction product with Ph lactide homopolymer  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation of resin-coated carrier for electrophotog. developer)  
RN 54545-52-7 HCAPLUS  
CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, methyl ester (9CI) (CA INDEX NAME)



IC ICM G03C005-18  
INCL 430434000  
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38  
IT 88-21-1DP, 2-Aminobenzenesulfonic acid, reaction product with polyhydroxyalkanoate 88-44-8DP, p-Toluidine-2-sulfonic acid, reaction product with polyhydroxyalkanoate 501-53-1DP, Benzyl chloroformate, reaction product with polyhydroxyalkanoate 5437-45-6DP, Benzyl bromoacetate,

## 10/574,001-270118-EIC 1700 SEARCH

reaction product with polyhydroxyalkanoate  
 14660-52-7DP, Ethyl 5-bromovalerate, reaction product with  
 polyhydroxyalkanoate 25542-62-5DP, Ethyl  
 6-bromohexanoate, reaction product with  
 polyhydroxyalkanoate 26063-00-3P 26161-42-2P  
 26744-04-7P 28606-14-6P 28702-32-1P 29823-21-0DP, Ethyl  
 8-Bromooctanoate, reaction product with  
 polyhydroxyalkanoate 33135-50-1P, L-Lactide homopolymer  
 86311-35-5DP, 2-Amino-2-methylpropanesulfonic acid, reaction  
 product with polyhydroxyalkanoate 134736-36-0P  
 260413-47-6P 260414-76-4P 347867-66-7P 350803-33-7P  
 871720-57-9P 872139-39-4P 872413-53-1P 872413-55-3DP,  
 oxidized, amides with 2-amino-2-methylpropanesulfonic acid  
 872413-55-3P 872413-59-7P 872413-62-2P 872413-64-4P  
 872413-65-5P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);  
 PREP (Preparation); RACT (Reactant or reagent)

(preparation of resin-coated carrier for electrophotog. developer)

IT 82-75-7DP, 1-Naphthylamine-8-sulfonic acid, reaction product with  
 polyhydroxyalkanoate 107-35-7DP, Taurine, reaction  
 product with Ph lactide homopolymer and Et bromovalerate  
 13244-33-2DP, 4-Methoxyaniline-2-sulfonic acid, reaction product  
 with polyhydroxyalkanoate 18107-18-1DP,  
 Trimethylsilyldiazomethane, reaction product with  
 polyhydroxyalkanoate 26063-00-3DP, hydrolyzed, reaction  
 product with benzyl chloroformate or benzyl bromoacetate, amides  
 with Me aminobenzenesulfonate or Me aminomethylpropanesulfonate  
 26161-42-2DP, L-Lactide homopolymer, sru, oxidized, reaction  
 products with benzyl chloroformate or Et bromooctanoate, amides  
 with Me aminonaphthalenesulfonate or Ph aminobenzenesulfonate  
 26744-04-7DP, hydrolyzed, reaction product with benzyl  
 chloroformate or benzyl bromoacetate, amides with Me  
 aminobenzenesulfonate or Me aminomethylpropanesulfonate  
 28606-14-6DP, oxidized, reaction product with Et bromovalerate,  
 amides with Me amino-methylpropanesulfonate 28702-32-1DP,  
 oxidized, reaction product with Et bromovalerate, amides with Me  
 amino-methylpropanesulfonate 33135-50-1DP, oxidized, reaction  
 products with benzyl chloroformate or Et bromooctanoate, amides  
 with Me aminonaphthalenesulfonate or Ph aminobenzenesulfonate  
 54545-52-7DP, Methyl 2-Acrylamido-2-  
 methylpropanesulfonate, reaction product with Ph lactide  
 homopolymer 68227-69-0DP, Phenyl 2-aminobenzene sulfonate,  
 reaction product with lactide homopolymer and Et bromooctanoate  
 134736-36-0DP, oxidized, reaction product with benzyl  
 chloroformate or Et bromohexanoate, amides with Me  
 aminobenzenesulfonate 260413-47-6DP, hydrolyzed, reaction  
 products with benzyl chloroformate or Et bromovalerate, amides  
 with Me aminobenzenesulfonate 260414-76-4DP, hydrolyzed,  
 reaction products with benzyl chloroformate or Et bromovalerate,  
 amides with Me aminobenzenesulfonate 347867-66-7DP, oxidized,  
 reaction product with benzyl chloroformate, amides with Me  
 aminobenzenesulfonate 350803-33-7DP, oxidized, reaction product  
 with benzyl chloroformate, amides with Me  
 aminonaphthalenesulfonate 871720-57-9DP, hydrolyzed, amides with  
 Me naphthylamine-8-sulfonate 872139-39-4DP, hydrolyzed, amides  
 with aminobenzenesulfonic acid 872413-53-1DP, oxidized, amides  
 with Me 2-aminobenzenesulfonate 872413-57-5DP, oxidized, Me  
 esters 872413-58-6DP, oxidized, Me esters 872413-58-6P  
 872413-59-7DP, oxidized, Me esters 872413-62-2DP, oxidized,  
 amides with methoxyanilinesulfonic acid 872413-64-4DP, oxidized,  
 reaction product with benzyl bromoacetate, amides with  
 aminobenzenesulfonic acid 872413-65-5DP, oxidized, reaction  
 product with benzyl bromoacetate, amides with aminobenzenesulfonic  
 acid

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical  
 or engineered material use); PREP (Preparation); USES (Uses)

(preparation of resin-coated carrier for electrophotog. developer)

## 10/574,001-270118-EIC 1700 SEARCH

L34 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:1330768 HCAPLUS Full-text  
 DOCUMENT NUMBER: 144:70260  
 TITLE: Polyhydroxyalkanoic acid having  
 ester, carboxyl or sulfonic acid group and  
 producing method therefor  
 INVENTOR(S): Kenmoku, Takashi; Mihara, Chieko; Fukui,  
 Tatsuki; Kusakari, Ako; Yano, Tetsuya  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: PCT Int. Appl., 160 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005121208	A1	20051222	WO 2005-JP11000	2005 0609
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2006022321	A	20060126	JP 2005-168914	2005 0608
<--				
JP 2006022322	A	20060126	JP 2005-168915	2005 0608
<--				
WO 2005121204	A2	20051222	WO 2005-JP10996	2005 0609
<--				
WO 2005121204	A3	20060209		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1758948	A2	20070307	EP 2005-751248	2005 0609
<--				
R: DE, GB				
US 20080064828	A1	20080313	US 2006-574001	

2006  
0329

A1

20070524

<--  
US 2006-580830

2006  
0526

PRIORITY APPLN. INFO.:

JP 2004-174788

A

2004  
0611

JP 2005-168914

A

2005  
0608

WO 2005-JP10996

W

2005  
0609

WO 2005-JP11000

W

2005  
0609

ED Entered STN: 22 Dec 2005

AB The invention is to provide a novel polyhydroxyalkanoate having a reactive functional group within a mol., a novel polyhydroxyalkanoate having a novel function by a chemical modification of the polyhydroxyalkanoate having the reactive functional group, and a producing method therefor. A polyhydroxyalkanoate containing a unit having a carboxyl group in a side chain is utilized for deriving a polyhydroxyalkanoate containing a unit having an amide group and a sulfonic acid group in the mol. The polyhydroxyalkanoate is useful for medical soft members due to its excellent melt processability and biocompatibility.

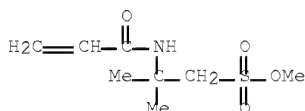
IT 54545-52-7DB, Methyl 2-acrylamido-2-methylpropanesulfonate, reaction products with microbial polyhydroxyalkanoates

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(production of polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group)

RN 54545-52-7 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-,  
methyl ester (9CI) (CA INDEX NAME)



IC ICM C08G063-08

ICS C08G063-688; C08G063-685; C08G063-91

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 63

ST polyhydroxyalkanoic acid ester carboxyl sulfonic medical  
soft member

IT Polyesters, preparation

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(hydroxycarboxylic acid-based, microbial; production of polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group)

IT Biodegradable materials

## Medical goods

(production of polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group)

- IT 34409-67-1P, Poly(3,6-bis(phenylmethyl)-1,4-dioxane-2,5-dione), SRU  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (microbial; polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group and producing method therefor)
- IT 34409-67-1DP, 3,6-Bis(phenylmethyl)-1,4-dioxane-2,5-dione homopolymer, SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs.  
 RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (microbial; polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group and producing method therefor)
- IT 26161-42-2P 28606-15-7DP, 3,6-Diisopropyl-1,4-dioxane-2,5-dione homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 28606-15-7P, Poly(3,6-diisopropyl-1,4-dioxane-2,5-dione) 28702-33-2P, Poly(3,6-diisopropyl-1,4-dioxane-2,5-dione), SRU 31779-80-3P, Poly[oxy(1-ethyl-2-oxo-1,2-ethanediy)] 33135-50-1P, Poly(L-lactide) 112832-41-4P 213316-77-9P, Poly(3,6-dihexyl-1,4-dioxane-2,5-dione) 213316-79-1P, Poly(3,6-dihexyl-1,4-dioxane-2,5-dione), SRU 494210-48-9P, Poly(3,6-bis(phenylmethyl)-1,4-dioxane-2,5-dione)  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (microbial; production of polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group)
- IT 26161-42-2DP, L-Lactide homopolymer, SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 28702-33-2DP, 3,6-Diisopropyl-1,4-dioxane-2,5-dione homopolymer, SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 31779-80-3DP, 3,6-Diethyl-1,4-dioxane-2,5-dione homopolymer, SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 33135-50-1DP, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 112832-41-4DP, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 213316-77-9DP, 3,6-Dihexyl-1,4-dioxane-2,5-dione homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 213316-79-1DP, 3,6-Dihexyl-1,4-dioxane-2,5-dione homopolymer, SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 494210-48-9DP, 3,6-Bis(phenylmethyl)-1,4-dioxane-2,5-dione homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs.  
 RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (microbial; production of polyhydroxyalkanoic acid having ester, carboxyl or sulfonic acid group)
- IT 67-56-1DP, Methanol, esters with sulfonic group-containing polyhydroxyalkanoate derivs. 81-16-3DP, 2-Amino-1-naphthalenesulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 82-75-7DP, 1-Naphthylamine-8-sulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 88-21-1DP, 2-Aminobenzenesulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 88-44-8DP, p-Toluidine-2-sulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 107-35-7DP, Taurine, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 121-57-3DP, 4-Aminobenzenesulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 501-53-1DP, Benzyl chloroformate, reaction products with polyhydroxyalkanoates, hydrolyzed 2969-81-5DP, Ethyl 4-bromobutyrate, reaction products with polyhydroxyalkanoates, hydrolyzed 3395-91-3DP, Methyl 3-bromopropionate, reaction products with

## 10/574,001-270118-EIC 1700 SEARCH

polyhydroxyalkanoates, hydrolyzed 5437-45-6DP, Benzyl  
bromoacetate, reaction products with polyhydroxyalkanoates  
, hydrolyzed 13244-33-2DP, 4-Methoxyaniline-2-sulfonic acid,  
amides with carboxyl-containing polyhydroxyalkanoates,  
esters with methanol 14660-52-7DP, Ethyl 5-bromovalerate,  
reaction products with polyhydroxyalkanoates, hydrolyzed  
25542-62-5DP, Ethyl 6-bromohexanoate, reaction products with  
polyhydroxyalkanoates, hydrolyzed 29823-21-0DP, Ethyl  
8-bromooctanoate, reaction products with  
polyhydroxyalkanoates, hydrolyzed 40307-20-8DP,  
4-Aminobenzenesulfonic acid phenyl ester, amides with  
carboxyl-containing polyhydroxyalkanoates, hydrolyzed,  
esters with methanol 54545-52-7DP, Methyl  
2-acrylamido-2-methylpropanesulfonate, reaction products with  
microbial polyhydroxyalkanoates 68227-69-0DP,  
2-Aminobenzenesulfonic acid phenyl ester, amides with  
carboxyl-containing polyhydroxyalkanoates, esters with  
methanol 86311-35-5DP, 2-Amino-2-methylpropanesulfonic acid,  
amides with carboxyl-containing polyhydroxyalkanoates,  
esters with methanol

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(production of polyhydroxyalkanoic acid having ester,  
carboxyl or sulfonic acid group)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L34 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1330628 HCAPLUS Full-text

DOCUMENT NUMBER: 144:70259

TITLE: Polyhydroxyalkanoate having ester  
group, carboxyl group, and sulfonic group, and  
method of producing the same

INVENTOR(S): Kenmoku, Takashi; Mihara, Chieko; Fukui,  
Tatsuki; Kusakari, Ako

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan; Yano, Tetsuya

SOURCE: PCT Int. Appl., 220 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2005121205	A2	20051222	WO 2005-JP10997	

2005  
0609

<--

WO 2005121205 A3 20060209

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE,  
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW,  
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,  
LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2006022323 A 20060126 JP 2005-168916

2005  
0608

## 10/574,001-270118-EIC 1700 SEARCH

JP 2006022325      A      20060126      JP 2005-168918      2005  
0608

WO 2005121207      A2      20051222      WO 2005-JP10999      2005  
0609

WO 2005121207      A3      20060330  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,  
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE,  
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,  
CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,  
LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
US 20070155912      A1      20070705      US 2006-579805

2006  
0518

US 20070073006      A1      20070329      US 2006-581698      2006  
0602

PRIORITY APPLN. INFO.:      JP 2004-174783      A      2004  
0611

JP 2005-168916      A      2005  
0608

WO 2005-JP10997      W      2005  
0609

WO 2005-JP10999      W      2005  
0609

ED Entered STN: 22 Dec 2005

AB The invention relates to a novel polyhydroxyalkanoate having a reactive functional group in a mol. and a method of producing the same; and a novel polyhydroxyalkanoate having a new function obtained by chemical modifying the polyhydroxyalkanoate having a reactive functional group and a method of producing the same. A polyhydroxyalkanoate containing units having a carboxyl group, an amide group, and a sulfonic group in a mol. is induced. The polyhydroxyalkanoate is useful for medical soft members due to its excellent melt processability and biocompatibility.

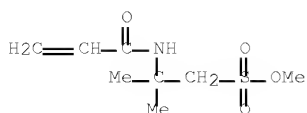
IT 54545-52-7DP, Methyl 2-acrylamido-2-methylpropanesulfonate, reaction products with microbial polyhydroxyalkanoates

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)

RN 54545-52-7 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, methyl ester (9CI) (CA INDEX NAME)



- IC ICM C08G063-00
- CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 63
- ST polyhydroxyalkanoate ester carboxyl sulfonic
- IT Cupriavidus necator  
(TB 24 strain, microbial; production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)
- IT Polyesters, preparation  
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(hydroxycarboxylic acid-based, microbial; production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)
- IT Biodegradable materials  
Medical goods  
(production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)
- IT 31759-58-7P, Poly(D-3-hydroxybutyric acid), SRU 141455-97-2P, R-3-Hydroxybutyric acid isotactic homopolymer 172923-04-5P, R-3-Hydroxy-5-phenylvaleric acid isotactic homopolymer 340255-66-5P, Poly(D-3-hydroxy-5-phenylvaleric acid), SRU 483343-37-9P, R-3-Hydroxy-5-phenoxyvaleric acid isotactic homopolymer 483343-40-4P, Poly(D-3-hydroxy-5-phenoxyvaleric acid), SRU 591251-65-9P, R-3-Hydroxy-4-cyclohexylbutyric acid isotactic homopolymer 591251-79-5P, Poly(D-3-hydroxy-4-cyclohexylbutyric acid), SRU  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(microbial; production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)
- IT 31759-58-7DP, Microbial poly(3-hydroxybutyrate), sru, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 141455-97-2DP, Microbial poly(3-hydroxybutyrate), esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 172923-04-5DP, R-3-Hydroxy-5-phenylvaleric acid isotactic homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 340255-66-5DP, Poly(D-3-hydroxy-5-phenylvaleric acid), SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 483343-37-9DP, R-3-Hydroxy-5-phenoxyvaleric acid isotactic homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 483343-40-4DP, Poly(D-3-hydroxy-5-phenoxyvaleric acid), SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 591251-65-9DP, R-3-Hydroxy-4-cyclohexylbutyric acid isotactic homopolymer, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs. 591251-79-5DP, Poly(D-3-hydroxy-4-cyclohexylbutyric acid), SRU, esters, carboxylic acid, sulfonic acid, and methylsulfonates derivs.  
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(microbial; production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)
- IT 67-56-1DP, Methanol, esters with sulfonic group-containing polyhydroxyalkanoate derivs. 81-16-3DP, amides with

## 10/574,001-270118-EIC 1700 SEARCH

carboxyl-containing polyhydroxyalkanoates, esters with methanol 82-75-7DP, 1-Naphthylamine-8-sulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 88-21-1DP, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 88-44-8DP, p-Toluidine-2-sulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 107-35-7DP, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 121-57-3DP, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 501-53-1DP, reaction products with polyhydroxyalkanoates, hydrolyzed 2969-81-5DP, Ethyl 4-bromobutyrate, reaction products with polyhydroxyalkanoates, hydrolyzed 3395-91-3DP, reaction products with polyhydroxyalkanoates, hydrolyzed 5437-45-6DP, reaction products with polyhydroxyalkanoates, hydrolyzed 13244-33-2DP, 4-Methoxyaniline-2-sulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 14660-52-7DP, Ethyl 5-bromovalerate, reaction products with polyhydroxyalkanoates, hydrolyzed 25542-62-5DP, Ethyl 6-bromohexanoate, reaction products with polyhydroxyalkanoates, hydrolyzed 29823-21-0DP, Ethyl 8-bromooctanoate, reaction products with polyhydroxyalkanoates, hydrolyzed 40307-20-8DP, amides with carboxyl-containing polyhydroxyalkanoates, hydrolyzed, esters with methanol 54545-52-7DP, Methyl 2-acrylamido-2-methylpropanesulfonate, reaction products with microbial polyhydroxyalkanoates 68227-69-0DP, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol 86311-35-5DP, 2-Amino-2-methylpropanesulfonic acid, amides with carboxyl-containing polyhydroxyalkanoates, esters with methanol

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(production of polyhydroxyalkanoate having ester group, carboxyl group, and sulfonic group for medical soft members)

L34 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2003:693178 HCAPLUS Full-text  
 DOCUMENT NUMBER: 139:215251  
 TITLE: Production of polyhydroxyalkanoate,  
 for charge controlling agent for toner binders  
 in image formation  
 INVENTOR(S): Fukui, Tatsuki; Sugawa, Etsuko; Yano, Tetsuya;  
 Mihara, Chieko; Imamura, Takeshi; Kenmoku,  
 Takashi  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: Eur. Pat. Appl., 107 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
EP 1340777	A1	20030903	EP 2003-4349	2003 0228
<--				
EP 1340777	B1	20051214		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004002686	A	20040108	JP 2003-32701	2003 0210

## 10/574,001-270118-EIC 1700 SEARCH

JP 3639831 B2 20050420  
 US 20040005290 A1 20040108 US 2003-373851  
 2003  
 0227

US 6911520 B2 20050628  
 CN 1440991 A 20030910 CN 2003-106777  
 2003  
 0228

PRIORITY APPLN. INFO.: JP 2002-54906 A  
 2002  
 0228

JP 2002-54908 A  
 2002  
 0228

JP 2003-32701 A  
 2003  
 0210

ED Entered STN: 05 Sep 2003  
 GI

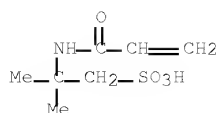
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT  
 \*

AB Provided is a polyhydroxyalkanoate containing in a mol. thereof one or more units each selected from I, II, III, IV: wherein R1 is selected from OH, a halogen atom, ONa, OK, OCH3 and OC2H5; A1 represents a substituted or unsubstituted aliphatic hydrocarbon structure; m is an integer selected from 0 to 7; and in the case where there exists a plurality of units, R1, A1 and m represent the above described definitions independently for each unit, wherein R6 is selected from OH, a halogen atom, ONa, OK, OCH3 and OC2H5; J6 represents a substituted or unsubstituted aliphatic hydrocarbon structure; n is an integer selected from 0 to 7; r is an integer selected from 1 to 500; and in the case where there exists a plurality of units, R6, J6, n and r represent the above described definitions independently for each unit, wherein n represents an integer of 0 to 7; and in the case where a plurality of units exist in the same mol., n in one unit can be different from that in another unit resp., and wherein m represents an integer of 0 to 7; R1' to R5' represent independently a hydrogen atom or a halogen atom; and in the case where there exists a plurality of units, m and R1' to R5' represent the above described definitions independently for each unit. A polymer was prepared by microbial polymerization of 5-(4-vinylphenyl) valeric acid and 5-Ph valeric acid, followed by reaction with HS(CH2)2CONHCHMe2CH2SO3Na.

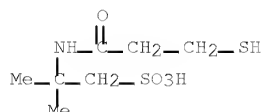
IT 15214-89-8DP, 2-Acrylamido-2-methylpropanesulfonic acid, graft polymers with polyhydroxyalkanoates  
 151078-37-4DP, reaction products with polyhydroxyalkanoates  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (production of polyhydroxyalkanoate, for charge controlling agent for toner binders in image formation)

RN 15214-89-8 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-  
 (CA INDEX NAME)



RN 151078-37-4 HCAPLUS  
 CN 1-Propanesulfonic acid, 2-[(3-mercapto-1-oxopropyl)amino]-2-methyl-, sodium salt (1:1) (CA INDEX NAME)



● Na

IC ICM C08G063-06  
 ICS G03G009-097; C08G063-688; C08G063-682  
 CC 37-3 (Plastics Manufacture and Processing)  
 ST polyhydroxyalkanoate charge control agent toner binder  
 IT Electrophotographic toners  
 (binder; production of polyhydroxyalkanoate, for charge  
 controlling agent for toner binders in image formation)  
 IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (hydroxycarboxylic acid-based; production of  
 polyhydroxyalkanoate, for charge controlling agent for  
 toner binders in image formation)  
 IT 100-42-5DP, Styrene, polymers with polyhydroxyalkanoates  
 103-11-7DP, polymers with polyhydroxyalkanoates  
 371-42-6DP, p-Fluorobenzenethiol, reaction products with  
 polyhydroxyalkanoates 771-62-0P, Pentafluorobenzenethiol  
 1321-74-ODP, Divinylbenzene, polymers with  
 polyhydroxyalkanoates 15214-89-8DP,  
 2-Acrylamido-2-methylpropanesulfonic acid, graft polymers with  
 polyhydroxyalkanoates 41479-99-6DP, 3-Hydroxy-5-phenyl  
 valeric acid, polyhydroxyalkanoates, reaction products  
 with thioates 151078-37-4DP, reaction products with  
 polyhydroxyalkanoates 590378-69-1DP,  
 polyhydroxyalkanoates, reaction products with thioates  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (production of polyhydroxyalkanoate, for charge  
 controlling agent for toner binders in image formation)  
 IT 2270-20-4, 5-Phenyl valeric acid 121739-61-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (production of polyhydroxyalkanoate, for charge  
 controlling agent for toner binders in image formation)  
 REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L34 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2003:652137 HCAPLUS Full-text  
 DOCUMENT NUMBER: 139:180848  
 TITLE: Production of polyhydroxyalkanoates

## 10/574,001-270118-EIC 1700 SEARCH

INVENTOR(S): having amide group and sulfonic groups for charge controlling agents for toner binders  
Kenmoku, Takashi; Sugawa, Etsuko; Yano, Tetsuya; Mihara, Chieko; Imamura, Takeshi; Fukui, Tatsuki

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: Eur. Pat. Appl., 66 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
EP 1336635	A1	20030820	EP 2003-3419	2003 0214
EP 1336635	B1	20070117	<--	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004197063	A	20040715	JP 2003-14704	2003 0123
JP 3689697	B2	20050831	<--	
CN 1446835	A	20031008	CN 2003-104461	2003 0214
US 20040081906	A1	20040429	US 2003-367951	2003 0219
US 6908721	B2	20050621	<--	
PRIORITY APPLN. INFO.:			JP 2002-38399	A 2002 0215
			JP 2002-38653	A 2002 0215
			JP 2002-310256	A 2002 1024
			JP 2003-14704	A 2003 0123
			<--	

ED Entered STN: 21 Aug 2003

AB A polyhydroxyalkanoate comprises a unit of formula (1):  $-\text{[OCH}[(\text{CH}_2)_m\text{SASO}_2\text{R}]\text{CH}_2\text{CO]}-$  wherein R is selected from the group consisting of OH, a halogen atom, ONa, OK, OCH<sub>3</sub> and OC<sub>2</sub>H<sub>5</sub>; A represents a substituted or unsubstituted aliphatic hydrocarbon structure; m is an integer number selected from 1 to 8; and in the case where a plurality of units exist in the same mol., R, A and m in one unit can be different from them in another unit resp. A method of producing the polyhydroxyalkanoate comprises the step of reacting a polyhydroxyalkanoate containing Br-terminated side groups and a sulfonylamidomercaptan. A polyhydroxyalkanoate was prepared from 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate and a polyhydroxyalkanoate containing 3-hydroxy-8-bromooctanoic acid, 3-hydroxy-6-bromohexanoic acid, and 3-hydroxy-5-phenylvaleric acid repeating units.

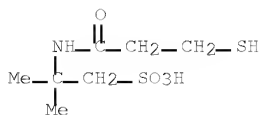
IT 151078-37-4P

# 10/574,001-270118-EIC 1700 SEARCH

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(production of polyhydroxyalkanoates having amide group and sulfonic groups for charge controlling agents for toner binders)

RN 151078-37-4 HCAPLUS

CN 1-Propanesulfonic acid, 2-[(3-mercapto-1-oxopropyl)amino]-2-methyl-, sodium salt (1:1) (CA INDEX NAME)



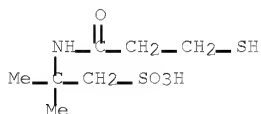
● Na

IT 151078-37-4DF, reaction products with polyhydroxyalkanoates

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(production of polyhydroxyalkanoates having amide group and sulfonic groups for charge controlling agents for toner binders)

RN 151078-37-4 HCAPLUS

CN 1-Propanesulfonic acid, 2-[(3-mercapto-1-oxopropyl)amino]-2-methyl-, sodium salt (1:1) (CA INDEX NAME)



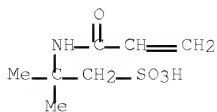
● Na

IT 15214-89-8, 2-Acrylamido-2-methylpropanesulfonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)  
(production of polyhydroxyalkanoates having amide group and sulfonic groups for charge controlling agents for toner binders)

RN 15214-89-8 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-(CA INDEX NAME)



IC ICM C08G063-688

## 10/574,001-270118-EIC 1700 SEARCH

ICS C08G063-91; C12P007-62; G03G009-087  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 74  
 ST polyhydroxyalkanoate amide sulfonate charge control  
 agent toner binder  
 IT Electrophotographic toners  
 (binders, charge control agents for; production of  
 polyhydroxyalkanoates having amide group and sulfonic  
 groups for charge controlling agents for toner binders)  
 IT Polyesters, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (hydroxycarboxylic acid-based; production of  
 polyhydroxyalkanoates having amide group and sulfonic  
 groups for charge controlling agents for toner binders)  
 IT Binders  
 (toner, charge control agents for; production of  
 polyhydroxyalkanoates having amide group and sulfonic  
 groups for charge controlling agents for toner binders)  
 IT 151078-37-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (production of polyhydroxyalkanoates having amide group  
 and sulfonic groups for charge controlling agents for toner  
 binders)  
 IT 41479-99-6DP, 3-Hydroxy-5-phenylvaleric acid,  
 polyhydroxyalkanoates, reaction products with  
 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 126502-98-5DP, polyhydroxyalkanoates, reaction products  
 with 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 151078-37-4DP, reaction products with  
 polyhydroxyalkanoates 155638-20-3DP,  
 3-Hydroxy-5-phenoxyvaleric acid, polyhydroxyalkanoates,  
 reaction products with 2-(2'-mercaptoethyl)amide-2-  
 methylpropanesulfonate 581792-64-5DP,  
 polyhydroxyalkanoates, reaction products with  
 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 581792-65-6DP, polyhydroxyalkanoates, reaction products  
 with 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 581792-67-8DP, polyhydroxyalkanoates, reaction products  
 with 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 581792-69-0DP, polyhydroxyalkanoates, reaction products  
 with 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 581792-71-4DP, polyhydroxyalkanoates, reaction products  
 with 2-(2'-mercaptoethyl)amide-2-methylpropanesulfonate  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered  
 material use); PREP (Preparation); USES (Uses)  
 (production of polyhydroxyalkanoates having amide group  
 and sulfonic groups for charge controlling agents for toner  
 binders)  
 IT 507-09-5, Thioacetic acid, reactions 15214-89-8,  
 2-Acrylamido-2-methylpropanesulfonic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (production of polyhydroxyalkanoates having amide group  
 and sulfonic groups for charge controlling agents for toner  
 binders)  
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L34 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:246661 HCAPLUS Full-text  
 DOCUMENT NUMBER: 122:8169  
 ORIGINAL REFERENCE NO.: 122:1895a,1898a  
 TITLE: Extraction of polyhydroxyalkanoates  
 from halophilic bacteria  
 INVENTOR(S): Munoz Escalona, Antonio; Rodriguez Varela,

## 10/574,001-270118-EIC 1700 SEARCH

PATENT ASSIGNEE(S): Francisco; Marcilla Gomis, Antonio  
 SOURCE: Repsol Quimica S. A., Spain  
 Eur. Pat. Appl., 6 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 622462	A1	19941102	EP 1994-500077	1994 0429
EP 622462	B1	20010829	<--	
R: AT, DE, FR, GB				
ES 2062955	A1	19941216	ES 1993-914	1993 0429
ES 2062955	B1	19950616	<--	
US 5536419	A	19960716	US 1994-234325	1994 0428
AT 204907	T	20010915	AT 1994-500077	1994 0429
JP 07303490	A	19951121	JP 1994-99777	1994 0513
JP 2726802	B2	19980311	<--	
PRIORITY APPLN. INFO.:			ES 1993-914	A 1993 0429
			<--	

ED Entered STN: 15 Dec 1994

AB A procedure is disclosed for the extraction of polyhydroxyalkanoates from halophilic bacteria, using lysis or rupture of halophilic cells (for example, of halobacteria) which develop in media with high salt concns., by concentration by centrifugation, and then dilution-resuspension in a medium with low salt concentration, for example, fresh or distilled water, and then centrifugation, sedimentation, or filtration of the suspension obtained.

IT 81-24-3, Taurocholic acid

RL: BUU (Biological use, unclassified); BIOL (Biological study);

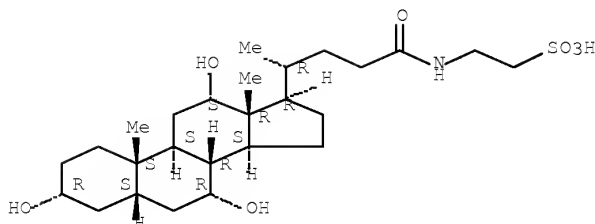
USES (Uses)

(extraction of polyhydroxyalkanoates from halophilic bacteria)

RN 81-24-3 HCAPLUS

CN Ethanesulfonic acid, 2-[[[(3 $\alpha$ , 5 $\beta$ , 7 $\alpha$ , 12 $\alpha$ )-3,7,12-trihydroxy-24-oxocholan-24-yl]amino]- (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C12P007-62  
ICS C12N001-06  
CC 16-4 (Fermentation and Bioindustrial Chemistry)  
ST polyhydroxyalkanoate extn halophilic bacteria  
IT *Haloferax mediterranei*  
(extraction of polyhydroxyalkanoates from halophilic bacteria)  
IT Bacteria  
(halophilic, extraction of polyhydroxyalkanoates from halophilic bacteria)  
IT Polyesters, preparation  
RL: BMF (Bioindustrial manufacture); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
(hydroxycarboxylic acid-based, extraction of polyhydroxyalkanoates from halophilic bacteria)  
IT 60-00-4, EDTA, biological studies 81-24-3, Taurocholic acid 98-11-3D, Benzenesulfonic acid, alkyl derivs. 151-21-3, Sodium laurylsulfate, biological studies 302-95-4, Sodium deoxycholate 361-09-1, Sodium cholate 550-97-0, Alphenol 25154-52-3, Nonylphenol  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(extraction of polyhydroxyalkanoates from halophilic bacteria)

L34 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:455877 HCAPLUS Full-text

DOCUMENT NUMBER: 121:55877

ORIGINAL REFERENCE NO.: 121:10075a,10078a

TITLE: Inhibition of immunoglobulin production in human Namalwa cells and rat spleen lymphocytes by bile acid

AUTHOR(S): Lim, Beong Ou; Yamada, Koji; Sugano, Michihiro

CORPORATE SOURCE: Fac. Agric., Kyushu Univ., Fukuoka, 812, Japan

SOURCE: Bioscience, Biotechnology, and Biochemistry (1994), 58(6), 1107-11

CODEN: BBBIEJ; ISSN: 0916-8451

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 06 Aug 1994

AB The effects of bile acids on the proliferation and IgM production of human lymphoblastoid Namalwa cells and on the Ig production of rat spleen lymphocytes were examined. Among the free bile acids examined, two dihydroxy bile acids, CDCA and DCA, inhibited the proliferation of Namalwa cells and Ig production by rat spleen lymphocytes at concns. above 20 µg/mL, while the inhibitory effect of a trihydroxy bile acid, CA, was much weaker. The inhibitory effects of their conjugated bile acids were weaker than those of the free ones, and the DCA derivs. were more toxic than the CA ones. These results suggest that dihydroxy bile acids were more toxic to Ig production by spleen lymphocytes than trihydroxy ones. The effect of bile acids on Ig production by the lymphocytes was examined in the presence of such mitogens as LPS, PHA, Con A, and PWM. As a result, TDCA inhibited their IgG and IgM production at 200 µg/mL independently of the mitogen addition, while TCA was almost ineffective. It thus seems

# 10/574,001-270118-EIC 1700 SEARCH

likely that the bile acid inhibits the Ig production by spleen lymphocytes through non-specific inhibition of the both T and B cell functions.

IT 81-24-3, Taurocholic acid

RL: BIOL (Biological study)

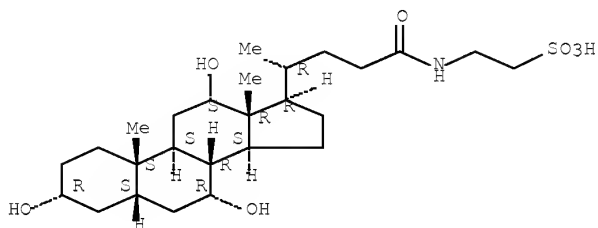
(Ig formation by B-cells inhibition by)

RN 81-24-3 HCAPLUS

CN Ethanesulfonic acid, 2-[[ (3 $\alpha$ , 5 $\beta$ , 7 $\alpha$ , 12 $\alpha$ )-

3, 7, 12-trihydroxy-24-oxocholan-24-yl]amino]- (CA INDEX NAME)

Absolute stereochemistry.



CC 15-10 (Immunochemistry)

IT 81-24-3, Taurocholic acid 83-44-3, Deoxycholic acid

360-65-6, Glycodeoxycholic acid 474-25-9, Chenodeoxycholic acid

475-31-0, Glycocholic acid 516-50-7, Taurodeoxycholic acid

RL: BIOL (Biological study)

(Ig formation by B-cells inhibition by)

## 10/574,001-270118-EIC 1700 SEARCH

FULL SEARCH HISTORY

=&gt; d his nofile

(FILE 'HOME' ENTERED AT 09:20:44 ON 02 SEP 2008)

FILE 'HCAPLUS' ENTERED AT 09:20:56 ON 02 SEP 2008

E US20080064828/PN

L1 1 SEA ABB=ON PLU=ON US20080064828/PN  
D SCAN  
SEL RN

FILE 'REGISTRY' ENTERED AT 09:22:07 ON 02 SEP 2008

L2 29 SEA ABB=ON PLU=ON (112832-41-4/BI OR 213316-77-9/BI  
OR 213316-79-1/BI OR 26161-42-2/BI OR 28606-15-7/BI OR  
28702-33-2/BI OR 31779-80-3/BI OR 33135-50-1/BI OR  
34409-67-1/BI OR 494210-48-9/BI OR 107-35-7/BI OR  
121-57-3/BI OR 13244-33-2/BI OR 14660-52-7/BI OR  
25542-62-5/BI OR 2969-81-5/BI OR 29823-21-0/BI OR  
3395-91-3/BI OR 40307-20-8/BI OR 501-53-1/BI OR  
5437-45-6/BI OR 54545-52-7/BI OR 67-56-1/BI OR  
68227-69-0/BI OR 81-16-3/BI OR 82-75-7/BI OR 86311-35-5  
/BI OR 88-21-1/BI OR 88-44-8/BI)  
D SCAN  
D SAV  
ACT FAN001REG/A

L3 SCR 1267  
L4 STR  
L5 368 SEA SSS FUL L4 AND L3

-----  
D QUE STAT  
ACT FAN001REGA/A

L6 SCR 1267  
L7 STR  
L8 ( 368) SEA SSS FUL L7 AND L6  
L9 STR  
L10 53 SEA SUB=L8 SSS FUL L9

-----  
D QUE STAT  
D SAV  
ACT FAN001REG2/A

L11 ( 2677) SEA ABB=ON PLU=ON POLYHYDROXYALKANOAT? OR POLYHYDROXY  
ALKANOIC? OR (POLY OR ?POLYM?) (A) (HYDROXYALKANOAT? OR  
HYDROXYALKANOIC? OR (HYDROXY(W) (ALKANOAT? OR ALKANOIC?  
)))

L12 SEL PLU=ON L11 1- RN : 8487 TERMS

L13 ( 8487) SEA ABB=ON PLU=ON L12

L14 STR  
L15 6 SEA SUB=L13 SSS FUL L14

-----  
D SCAN  
D QUE STAT  
D SCAN  
D SAV  
ACT FANG001REG/A

L16 STR  
L17 66 SEA SSS FUL L16

-----  
D QUE STAT  
L18 125 SEA ABB=ON PLU=ON L10 OR L15 OR L17

FILE 'HCAPLUS' ENTERED AT 09:31:31 ON 02 SEP 2008

## 10/574,001-270118-EIC 1700 SEARCH

```

L19      5993 SEA ABB=ON  PLU=ON  L18
          D SAV
          ACT FAN001HCP/A
          -----
L20 (    2677)SEA ABB=ON  PLU=ON  POLYHYDROXYALKANOAT? OR POLYHYDROXY
          ALKANOIC? OR (POLY OR ?POLYM?)(A)(HYDROXYALKANOAT? OR
          HYDROXYALKANOOIC? OR (HYDROXY(W)(ALKANOAT? OR ALKANOIC?
          )))
L21      SEL PLU=ON  L20 1- RN :      8487 TERMS
L22 (    8487)SEA ABB=ON  PLU=ON  L21
L23      STR
L24 (      6)SEA SUB=L22 SSS FUL L23
L25 (    5930)SEA ABB=ON  PLU=ON  L24
L26 (     10)SEA ABB=ON  PLU=ON  L25 AND (L20 OR PHA)
L27      QUE ABB=ON  PLU=ON  PY<2005 OR PRY<2005 OR AY<2005 OR
          MY<2005 OR REVIEW/DT
L28      10 SEA ABB=ON  PLU=ON  L26 AND L27
          -----
          D QUE STAT
L29      10 SEA ABB=ON  PLU=ON  L19 AND (L20 OR PHA)
L30      10 SEA ABB=ON  PLU=ON  L28 OR L29
L31     364 SEA ABB=ON  PLU=ON  L5
L32      0 SEA ABB=ON  PLU=ON  L31 AND (L20 OR PHA)
L33      10 SEA ABB=ON  PLU=ON  L30 OR L32
L34      10 SEA ABB=ON  PLU=ON  L33 AND L27
          SAV TEMP L34 FAN001HCPA/A
          D QUE L34
          D L34 1-10 IBIB ED ABS HITSTR HITIND

```